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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/877,820	06/07/2001	Avinash Jain	010296	1176

23696 7590 07/02/2010

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ART UNIT	PAPER NUMBER
2476	

NOTIFICATION DATE	DELIVERY MODE
07/02/2010	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte AVINASH JAIN and JACK M. HOLTZMAN

Appeal 2009-005884
Application 09/877,820
Technology Center 2400

Before JOHN A. JEFFERY, KEVIN F. TURNER, and
CARL W. WHITEHEAD, JR., *Administrative Patent Judges*.

TURNER, *Administrative Patent Judge*.

DECISION ON APPEAL[1]

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from the final rejection of claims 1-10 and 13-20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

Appellants' disclosure relates to methods and apparatus for congestion control in a wireless communication system (Spec. ¶ [1006]).

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[1] The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the "MAIL DATE" (paper delivery mode) or the "NOTIFICATION DATE" (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

Independent claim 1 is illustrative of the invention and reads as follows:

> 1. A method to determine a next data rate in a mobile station of a wireless system, comprising:
>
> receiving a congestion indicator from a base station, the congestion indicator includes at least one data bit; and
>
> generating the next data rate in the mobile station as a function of the data rate history and the history of the congestion indicator of the mobile station.

The Examiner relies on the following prior art references to show unpatentability:

Yao	6,097,697	Aug. 1, 2000
Bark	US 6,553,235 B2	Apr. 22, 2003
Larsson	US 6,707,862 B1	Mar. 16, 2004

Claims 1-3, 8-10, 13, 14, 17, and 18 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Larsson (Ans. 3-6);

Claims 1-3, 8-10, 13, 14, 17, and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Larsson and Yao (Ans. 7-12); and

Claims 4-7, 15, 16, 19, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Larsson and Bark (Ans. 12-15).

In addition, claims 11 and 12 were objected to as being dependent on a rejected base claims, but contain allowable subject matter (Ans. 16).

ISSUES

Appellants argue that Larsson is "unequivocal regarding how the next data rate is determined or generated," and it does not teach that the next data rate is a function of the data rate history and the history of the congestion

indicator (Br. 11). In addition, Appellants argue that the combination of Larsson and Yao fails to teach or suggest all of the limitations of the claims and that the Examiner's assertion that a single entity in Yao generates the relied upon statistics does not meet the requirements of the claims (Br. 13-14). Appellants also allege that the combination of Larsson and Yao would render the purpose of Larsson destroyed and that the references are "uncombinable" (Br. 15-16). Appellants additionally argue that the rejection of claims over Larsson and Bark is improper by virtue of the dependencies of those rejected claims (Br. 16-17).

The Examiner finds that Larsson teaches the generation of the next data rate as a function of data rate history and the history of the congestion indictor of the mobile station (Ans. 17). The Examiner also finds that the independent claims allow for a congestion indictor to be generated by one entity and received by a second entity, which is obvious in view of Yao (Ans. 20-21), and that the combination of Larsson and Yao is motivated based on knowledge generally available to one of ordinary skill in the art at the time of the invention (Ans. 23).

Only those arguments actually made by Appellants have been considered in this decision. Arguments which Appellants could have made but chose not to make in the Brief have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Thus, the issues arising from the respective positions of Appellants and the Examiner are:

Does Larsson teach all of the elements recited in the claims 1-3, 8-10, 13, 14, 17, and 18 under 35 U.S.C. § 102(e)?

Do Larsson and Yao teach or suggest all of the elements recited in the claims 1-3, 8-10, 13, 14, 17, and 18 under 35 U.S.C. § 103(a)?

Do Larsson and Bark teach or suggest all of the elements recited in the claims 4-7, 15, 16, 19, and 20 under 35 U.S.C. § 103(a)?

FINDINGS OF FACT

1. The instant Specification details that a mobile station receives a congestion indicator to determine a congestion condition and determines a next data rate as a function of a history of congestion indicators and the data rate history for that station (Spec. ¶ [1011]).

2. Independent claims 1, 13, and 17 all specify that the next data rate is generated "as a function of" "the data rate history" and "the history of the congestion indicator" (Br.; Claims Appendix).

3. Larsson discloses a wireless transmitter with a data rate controller operating to predictively determine a traffic channel data rate (Abs). This traffic channel data rate is determined from the previously transmitted bit energy levels of a traffic channel and a target data throughput (col. 2, ll. 63-65).

4. Larsson discloses that "the data rate to be used in the next frame is chosen by comparing the estimated average bit energy Z with the set of thresholds" (col. 6, ll. 49-51).

5. Yao is directed to a congestion control system that uses a combination of multiple indicators of congestion (Abs.). Multiple statistics are derived from communications from the source to a destination, which provide indications of congestion on the network, including rates and packet loss (col. 2, ll. 22-29).

6. Yao provides that the derived statistics are used to adjust a transmission rate from the source to the destination, which can include a history of lost packets and prior transmission rates (col. 8, ll. 28-40).

PRINCIPLES OF LAW

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987). Analysis of whether a claim is patentable over the prior art under 35 U.S.C. § 102 begins with a determination of the scope of the claim. The properly interpreted claim must then be compared with the prior art.

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'" *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007).

KSR disapproved a rigid approach to obviousness (*i.e.*, an analysis *limited to* lack of teaching, suggestion, or motivation). *KSR*, 550 U.S. 398 at 419 ("The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents.").

During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). When the specification states the meaning that a term

in the claim is intended to have, the claim is examined using that meaning, in order to achieve a complete exploration of the applicant's invention and its relation to the prior art. *In re Zletz*, 893 F.2d 319, 321-22 (Fed. Cir. 1989).

ANALYSIS

Rejection under 35 U.S.C. § 102(e) by Larsson

Claims 1-3, 8-10, 13, 14, 17, and 18

Appellants argue that Larsson is "unequivocal regarding how the next data rate is determined or generated," and it does not teach that the next data rate is a function of the data rate history and the history of the congestion indicator (Br. 11). The Examiner finds that Larsson teaches the generation of the next data rate as a function of data rate history and the history of the congestion indictor of the mobile station (Ans. 17). We agree with Appellants.

Larsson discloses that the data rate to be used in the next frame is chosen by comparing the estimated average bit energy Z with the set of thresholds (FF 4). While Larsson provides for an estimate of the average bit energy of the last few frames, we agree with Appellants that this cannot be both the data rate history and the history of the congestion indicator (Br. 11). Furthermore, Larsson is clear as to how the data rate of the next frame is established and it does not meet the conditions set in independent claims 1, 13, and 17. As such, we find that the Examiner erred in rejecting claims 1, 13, and 17 as being anticipated by Larsson, and we make similar finding with respect to dependent claims 2, 3, 8-10, 14, and 18 by virtue of their dependencies.

Rejection under 35 U.S.C. § 103(a) over Larsson and Yao

Claims 1-3, 8-10, 13, 14, 17, and 18

Appellants argue that the combination of Larsson and Yao fails to teach or suggest all of the limitations of the claims and that the Examiner's assertion that a single entity in Yao generates the relied upon statistics does not meet the requirements of the claims (Br. 13-14). Appellants also allege that the combination of Larsson and Yao would render the purpose of Larsson destroyed and that the references are "uncombinable" (Br. 15-16). The Examiner finds that the independent claims allow for a congestion indictor to be generated by one entity and received by a second entity, which is obvious in view of Larsson and Yao (Ans. 20-21), and that the combination of Larsson and Yao is motivated based on knowledge generally available to one of ordinary skill in the art at the time of the invention (Ans. 23). We agree with the Examiner.

While we find no suggestion in Larsson itself that its procedures should be modified to reflect methods and apparatuses recited in the independent claims, we find ample suggestion of the same in Yao for such a modification. Yao provides that both data rate history and the history of the congestion indicator may be used to determine the subsequent data rate (FF 6). As the Examiner finds, Yao provides for both measures to be applied in determining a next data rate based on the determined statistics (Ans. 8). As such, we find that Larsson and Yao clearly teach or suggest all of the elements of independent claims 1, 13, and 17.

With respect to Appellants' arguments that since a single entity in Yao determines the statistics, it cannot meet the requirements of the claims of having a congestion indicator sent from a base station to a mobile station

(Br. 14), we do not find this to be fatal to the rejection. Appellants have acknowledged that Larsson teaches that a power control bit is received over a forward link (Br. 10). As such, the combination of Larsson and Yao would receive congestion indicators from a base station by the mobile station. Appellants cannot undermine the efficacy of the obviousness rejection by attacking the references individually.

Appellants also allege that the combination of Larsson and Yao would render the purpose of Larsson destroyed and that the references are "uncombinable" (Br. 15-16). We disagree. While Appellants argue that the packet-loss adjustment of Yao would destroy the intra-frame energy redistribution of Larsson (Br. 15), we find that Larsson's data rate control is achievable even if it includes the methods of Yao. The goals of the references are not mutually exclusive and there may be benefits of energy savings by limiting packet losses (and resending) because of congestion. This comports with the motivation to combine the references provided by the Examiner in the rejection (Ans. 23). As such, we do not find that the addition of Yao would render Larsson unfit for its intended purposes.

Appellants also allege that any combination or modification of Larsson with Yao would be unworkable (Br. 16), but we do not agree. Both references are in the same field of endeavor and involve modification of the packets sent based on conditions of their wireless networks. We find no error in the combination and we do not find compelling Appellants' arguments as to error in the rejection of claims 1-3, 8-10, 13, 14, 17, and 18 over Larsson and Yao.

Rejection under 35 U.S.C. § 103(a) over Larsson and Bark

Claims 4-7, 15, 16, 19, and 20

With respect to the rejection of claims 4-7, 15, 16, 19, and 20, Appellants argue that the rejection of those claims over Larsson and Bark is improper by virtue of the dependencies of those rejected claims (Br. 16-17). We agree. Unlike the combination of Larsson and Yao discussed *supra*, we do not find Bark to cure the deficiencies of Larsson alone, as applied against the independent claims in the anticipation rejection. As such, Larsson and Bark cannot render obvious the subject dependent claims and we find that the Examiner erred in rejecting claims 4-7, 15, 16, 19, and 20 over Larsson and Bark.

CONCLUSION

The decision of the Examiner rejecting claims 1-3, 8-10, 13, 14, 17, and 18 under U.S.C. § 102(e) as being anticipated by Larsson, and rejecting claims 4-7, 15, 16, 19, and 20 under U.S.C. § 103(a) as being unpatentable over Larsson and Bark, is reversed. The decision of the Examiner rejecting claims 1-3, 8-10, 13, 14, 17, and 18 under U.S.C. § 103(a) as being unpatentable over Larsson and Yao is affirmed.

DECISION

The Examiner's rejection of claims 4-7, 15, 16, 19 and 20 before us on appeal is REVERSED and the Examiner's rejection of claims 1-3, 8-10, 13, 14, 17, and 18 before us on appeal is AFFIRMED.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

ack

cc:

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